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ABSTRACT

The Rhode Island Child Care Training System (RICCTS) is intended to tie all aspects of the state's child care and education training into a single system that will produce staff who are competent in delivering high-quality programs for young children. The RICCTS was evaluated for the effectiveness of efforts to ensure quality programming for young children and their families. Data were gathered from 125 training subjects and 23 comparison group subjects and their supervisors on the training's effectiveness in: (1) improving trainees' perceived level of knowledge and skills; (2) improving the quality of work life for the trainees; (3) enabling the implementation of trainee-created action plans; and (4) the different types of training offered such as workshops, conferences, and on-going seminars. Findings showed that while the RICCTS was effective in terms of the first three research questions, with regard to the fourth question, there were no significant differences in effectiveness across the three types of training offered. Results suggest that quality training for child care providers can potentially improve the services offered to young children. (Contains 20 references.) (AP)

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Evaluation of the Rhode Island Child Care Training System

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Abstract

Current research suggests that quality training for child care providers can potentially improve the services offered to young children. There have been several major studies of child care training and this evaluation is modeled in part on these previous evaluation projects. The Rhode Island Child Care Training System (RICCTS) was evaluated in terms of the effectiveness of the training provided. One hundred twenty five training subjects and 23 comparison group subjects and their supervisors provided data in order to answer four specific research questions: 1) Is the training effective in improving trainees's perceived level of knowledge and skill?; 2) Is the training effective in improving the quality of work life for the trainees?; 3) Is the training effective in enabling the implementation of trainee created action plans?; 4) Are differences in effectiveness evident for the different types of training offered (workshops, conference, and on-going seminars)?. The findings suggest that the RICCTS is effective in improving trainees' level of competence and skill, is effective in impoving trainees quality of work life, and is effective in enabling trainees' to implement changes in their programs. More research is needed to answer the fourth question because the size of sub-groups was too small to definitively answer the question. Implications for training and research are provided.

Evaluation of the Rhode Island Child Care Training System

Introduction

The purpose of this study is to evaluate the effectiveness of the Rhode Island Child Care Training System (RICCTS) in its efforts to insure quality programming for young children and their families. Past research suggests that the quality of child care programs affects children's lives (Kagan, 1994; Galinsky, Shubilla, Willer, Levine, & Daniel, 1994; Vandell & Powers, 1983). The quality of child care programs is directly related to the specialized training received by practitioners (Morgan, Azer, Costley, Genser, Goodman, Lombardi, & McGinmsey, 1994). The vision of the RICCTS is that it will assist in developing a state-wide system of early childhood training. The ultimate goal of the RICCTS is to tie all aspects of the state's child care and education training into a system that will produce staff who are competent in delivering high-quality programs for young children.

Three justifications exist for evaluating the RICCTS. The first reason to conduct this evaluation lies in the importance for evaluating all funded social programs to document program accountability, determine program effectiveness, and justify future support from funding agencies. The second justification is that the RICCTS itself is interested in an evaluation to assess its current effectiveness and plan future programming. The final justification for this endeavor is the significance this study has for the student in terms of contributing to the advancement of program research and improved child care.

It is increasingly the case that social programs, and child care training programs in particular (Wolfe, 1994), are employing program evaluations. In fact, it

has been shown through previous evaluation research that staff training for child care providers is critical in determining overall program quality (Arnett, 1989; Berk, 1985; Jorde-Bloom, 1989a; Vandell & Powers, 1983; Wolfe, 1994).

As a social program, the RICCTS should be accountable for meeting its broad and specific goals. According to Adams and Schvaneveldt (1991), program evaluation has utility in broadening program effectiveness in that it can provide feedback to interventionists who are interested in assuring positive outcomes from their efforts.

The RICCTS board members, as responsive members of the child care community, are interested in assessing their program effectiveness. They seek to determine whether their mssion statement and goals are being effectively implemented. A copy of the mission statement is in Appendix A.

The establishment of the RICCTS is the culmination of many collaborative efforts in the early childhood community. The Training System is funded under a grant awarded to Children's Friend and Service by the Department of Human Services (DHS). The department, in its role as lead agency, is able to offer this grant though funds provided by the Federal Child Care and Development Block Grant.

The RICCTS developed their specific goals for training based on their broad vision for a comprehensive training system that will provide staff who are competent in delivering quality programs for young children. The RICCTS's approach to developing specific trainings was also informed in part by the work of the Center of Career Development at Wheelock College (Morgan et al., 1994). The Center found that the majority of non-credit trainings are repetitive, the content of most training does not address the spectrum of needs in the early childhood field (namely family

child care), there are inequities in access to both non-credit and credit training, and there are few linkages between non-credit and credit training. The Center recommends the following for developing a career development system. Create a planning body that results in comprehensive long term plans for career development, improve access to training for working practitioners, and license individuals as well as facilities (Morgan et al.,1994).

The RICCTS attempts to address the Center's findings in it's approach to training. They provide training for all aspects of the child care community including family child care providers, center-based providers, and directors. The RICCTS also offers a variety of types of training including: one-shot two hour workshops, on-going 8 week training programs, and day long conferences. A variety of topics have been addressed in these various trainings such as health and safety, first aid, CPR, parent involvement, lead teacher academy, and family day care accreditation.

Research suggests that different approaches to training yield differences in improved services. For instance, evaluations have found that ongoing training is more effective than one-shot workshops (Sims, 1990; Jones, 1993). Also, research suggests that training programs including discussion, simulation, and application of training concepts are more effective than training programs involving only lecture (VanderVen, 1993).

The RICCTS is concerned with providing various types of training for various types of needs. They have offered one-day workshops as well as on going training to meet the professional and personal demands of the community they are servicing.

The Training System is interested in determining if all of these trainings are improving programs in the state. They are also interested in using evaluation results to shape future trainings, therefore it is important to compare the effectiveness of the different types of trainings offered.

In addition to assessing program effectiveness and providing direction for future programs, this study is important because of its potential contribution to the program evaluation literature, particularly in early childhood education training. Program evaluation can be difficult to administer due to the unique problems that the research setting commonly presents (Adams & Schvaneveldt, 1991) and there is minimal standardization in the research designs employed. The design employed in this evaluation can potentially be used as a model to be built on and revised for future program evaluations. Considering the increasing call for accountability for social interventions, due to funding issues, there will undoubtedly be increasing need for program evaluation. Program evaluation could be completed more readily if a more comprehensive literature base were available to model an evaluation design.

Although there is a need for a more evaluation research, there have been evaluations of training programs that have been documented in the literature. Past research has been conducted to assess the effectiveness of different approaches to training. Evaluators have used different instruments to measure the effectiveness of training. Some have measured trainees' level of perceived competence, and trainees' level of satisfaction with work environment (Jorde-Bloom, 1989a). Instruments have been developed and standardized to measure both of these areas.

Another approach to assessing the effectiveness of training is to evaluate the effectiveness of training implementing individualized plans and generally these have been measured qualitatively. This study intends to incorporate all approaches in assessing the effectiveness of training.

Finally, this study is important because it is consistent with the investigator's interest in promoting sound social programs. The investigator is concerned with the well being of children and families, and therefore is interested in assessing interventions that claim to meet this goal.

Given the justifications for this evaluation, the following specific questions were investigated: 1) Is the training offered by the RICCTS effective in increasing trainees level of perceived competence and skill?, 2) Is the training effective in improving the perception of quality of work life for the trainees'?, 3) Is the training effective in enabling trainees to implement changes in their program?, and finally, 4) Are there differences in effectiveness for the three types of trainings offered through the RICCTS (one-shot workshops, conferences, and on-going training)?

Method

Design

The evaluation of the Rhode Island Child Care Training System used a non-equivalent control group design (Cook & Campbell, 1979) and involved multiple sources of data (Smith & Glass, 1987). In addition to a comparison group, the evaluation design included the collection of longitudinal data. Although this is not a true-experiment, the design includes precautions to decrease threats to internal

validity including history, instrumentation, pre-post sensitivity, instrumentation, and regression (Adams & Schvaneveldt, 1991). Threats to external validity were decreased as well. For example, the comparison group received a "treatment" to minimize the Hawthorne effect (Huck et al., 1984)

The evaluation of the RICCTS utilized three outcome variables; (1) trainees' level of perceived competence, (2) the perceived quality of work life for the trainees, and (3) the implementation of trainee formulated action plans based on the topic of training received. Action plans are simply three action based changes that the trainees wished to implement based on the specific training they received. These outcome variables were assessed from several different perspectives in terms of people (trainees, supervisors, and observer [goals]) and in terms of time (pre, post, and retrospective).

Subjects

The subjects in the experimental, or training group, were self-selected volunteers from home day care and center based child care programs from various locations in Rhode Island. The training group subjects consisted of all of the individuals who attended any of the nine training sessions conducted by the RICCTS from October 1994 to February 1995 from which data were collected. There were nine different training sessions evaluated in this project, covering five different content areas with a total of 125 subjects. All of the training group subjects were females, the majority Caucasian, between the ages of 25-34, married, having at least

some college, with family incomes of approximately $25,000. The majority of the training group were child care providers (as opposed to administrators). The mean number of years the training group had worked with children was five years.

The comparison group subjects were randomly selected from a list compiled from RICCTS records of child care providers who had not attended RICCTS training. There were 23 subjects in the comparison group. Similar to the training group, all of the comparison group subjects were females, the majority Caucasian, between the ages of 25-34, married, having at least some college, with family incomes of approximately $25,000. The majority of the comparison group were child care providers. The mean number of years the comparison group had worked with children was five years.

All subjects provided informed consent prior to their participation. A copy of the informed consent document is included in Appendix B.

Instrumentation

The design of this study utilized several approaches for measuring program improvements: feedback from trainees regarding changes in their perceived knowledge and skills; feedback from supervisors attesting to changes in trainee behavior or attitudes; and independent observations by an outside party assessing actual on the job behavior post training. Multiple perspectives were used to increase the reliability and validity of results by decreasing the possibility of bias. Copies of all instruments used in this study are included in Appendix C.

Demographic Information. All subjects completed a Trainee Characteristics Survey. This survey asks for demographic data on 16 characteristics such as education, race, income, occupational experience, present position, size and type of program, and past training received within and outside of the RICCTS.

Level of Perceived Competence. The trainees' level of perceived competence was measured using a modified version of the Training Needs Assessment Survey (TNAS; Bloom, Sheerer, Richard, & Britz, 1991). The TNAS assesses level of perceived competence in knowledge and skill areas related to the care and education of young children. Although this instrument was created to assess director training, it contains items relevant to a broad range of child care providers. The original instrument had 28 items. For the purposes of this study, 15 items that were too specific and related solely to director training were eliminated. The remaining 13 knowledge and skill areas assessed by the revised TNAS are clustered into two areas:

1. Personal/professional self-knowledge
   The four items in this area assess knowledge of one's learning and teaching style and how to apply or adapt that style as situationally appropriate.
2. Child development and early childhood programming
   These nine items assess knowledge of developmentally appropriate principles, and skill in applying developmentally appropriate practices.

This instrument provides scores for these two areas and a combined score for the 13 total items.

On a 5-point Likert-type scale, respondents were asked to indicate their level of knowledge or skill on each of the 13 items from "no knowledge in this area" (1) to "extremely knowledgeable" in this area (5). Their supervisors were asked to fill out a supervisor version (S-TNAS) that contained the same items. The total possible range of scores for both surveys is 13 to 65. Copies of the TNAS and S-TNAS are included in Appendix B.

Content validity of the TNAS was established in a previous study assessing the training needs of 990 center directors in Illinois (Jorde-Bloom, 1989b) and for leadership training for directors (Jorde-Bloom & Sheerer, 1992). The TNAS was found to have a coefficient for internal consistency of .95 on the pretest and .96 on the posttest using Cronbach's alpha (Jorde-Bloom, 1989b). No other psychometric data are available in the literature. The available psychometric information should be interpreted with caution in that they can only serve as an estimate for this study because the instrument was modified.

Quality of Work Life. A modified version of the Early Childhood Work Environment Survey (ECWES; Jorde-Bloom, 1989a) was used to measure the quality of the work life perceived by the trainees at their home sites. The ECWES, originally designed for use with directors, measures overall organizational climate and staff experiences. The original instrument had 10 items. For the purposes of this study, questions specific to director training were eliminated from the original ECWES. The revised version of the ECWES measured the trainee's perceptions of how their work environment compared with their ideal.

There were seven items on the revised ECWES. Respondents were asked to rate each item (1) "strongly disagree" to (4) "strongly agree". Possible scores on the revised version of the ECWES range from 7 to 28. Past research has shown the ECWES to have high internal validity (Bloom et al., 1992). Coefficient alphas of .95 for the pretest and .92 for the posttest have been established for the ECWES. No other psychometric information is available in the literature. This psychometric information should be interpreted as only an estimate because the ECWES was modified for this study.

The Implementation of Trainee Created Action Plans. At the end of each training session, the trainees submitted three specific action oriented goals based on the training content. The completion of these goals was measured using an instrument specifically designed for this study. The instrument, the Training Goal Observation Scale (GOS), allowed an objective observer to rate the degree to which action plans were effectively implemented in the program. On a 3-point Likert-type scale the observer indicated the effectiveness from "no evidence of implementation" (1) to "much evidence of implementation" (3) for each of the three trainee goals. The range of possible scores for this instrument is 3 to 9. Because this observation instrument was created specifically for this study, no psychometric information is available at this time. Inter-rater reliability was calculated to determine the accuracy of observations completed using the GOS.

Goal implementation was also measured by the Trainee Goal Survey (TGS). This is a self-rated survey containing five items, administered in an interview setting. On the first three items the trainees rate the degree to which they achieved each of the three goals on a 3-point scale. The points on the scale range from (1) "did not achieve at all" to (3) "fully achieved". On the fourth item the trainee is also asked to rate the ease/difficulty of implementing the goals. The points range from (1) difficult to (3) very easy. Finally, the trainee is asked to rate the degree to which the training offered by the RICCTS assisted in the implementation of their goals. The points on the scale range from (1) not helpful to (3) very helpful. The purpose of administering an interview and employing this instrument was to collect more in-depth data. The interview was intended as a safeguard against missing programmatic changes not detected by the

other quantitative methods. Goal implementation was also measured by a supervisor version of the TGS, the S-TGS. The supervisors were asked to assess implementation of the trainee's goals on the same items using the same scales as the trainee.

Copies of the TGS, S-TGS, and GOS are provided in Appendix C.

Procedure

Approximately 10 minutes prior to each training session the investigator distributed all of the instruments (Consent Form, Trainee Characteristics, TNAS, ECWES) to all of the registered trainees. The trainees were told that at the completion of the training they would also be asked to formulate three action based goals. The TNAS (S-TNAS) was mailed to all of the trainees' supervisors at that time. Supervisors were requested to independently complete the S-TNAS and return it in a postage-paid, self addressed envelope within one week. Two months after training, the TNAS and S-TNAS were mailed to thetraining group and their supervisors (S-TNAS) with each being asked to independently complete and return it in a postage-paid self addressed, stamped envelope. The ECWES is not completed by supervisors but it was mailed to the trainees.

The two month post tests included a column on which the trainee was to reflect back on their competence and skill (TNAS) and their work setting (ECWES) and rate themselves according to how they were prior to training. These retrospective questions appeared on the Trainee form TNAS, the ECWES, and the Supervisor form S-TNAS. Research has shown that individuals often over-rate

themselves prior to training because they are not yet aware of their weaknesses until after the training is administered (Cozby, Worden, & Kee, 1989). For this reason, the trainees were given an opportunity to rate themselves on their competence, knowledge, and skill prior to training when completing their post test forms.

The TNAS, ECWES, Trainee Characteristics, and consent form were mailed to the comparison group and their supervisors prior to their "treatment". In order to minimize the Hawthorne effect (Huck, Comrier, & Bounds, 1984; Adams & Schvaneveldt, 1991), comparison group subjects received an alternative "treatment" consisting of mailed materials on exercise/fitness information targeted for working women. This topic was chosen because it could potentially benefit the comparison group subjects while it is entirely unrelated to child care and any of the training delivered by the RICCTS. At two months after treatment, the comparison group subjects were also asked to complete a second TNAS and ECWES, and their supervsisors were asked to complete the second S-TNAS. They were provided with self addressed stamped envelopes in order to return their materials.

At the completion of each training program, trainees were asked to complete a trainee action plan worksheet. The trainees received one copy of their goals, the trainer received a copy, and the evaluator received a copy. A copy of the worksheet is available in Appendix C.

Six center based subjects were randomly chosen from various training sessions to receive an on-site observation two months after training by an objective observer who completed the GOS. At the time of the on site visit the trainees were given the TGS which allowed them to assess their perceived level of effectiveness in

implementing their goals. The supervisors received a trainee goal implementation rating pen-and-pencil survey and a copy of the trainee created goals. This included the same items that were asked for from the trainee (in interview form) during the two month visit. Supervisors were asked to rate the effectiveness of the trainees in implementing their goals, and the supervisors were asked to assess the effect the training had on the trainees and their program. Six home day care providers who attended the family day care accreditation training completed the TGS. Because they do not have supervisors, no S-TGS was available.

RESULTS

Demographics

Hotelling's T2 were conducted to assess the comparability of the training and comparison group for the 16 demographic characteristics. These characteristics included things such as race, income, education, and numbers of years in their field. The two groups were similar in all demographics except for two areas. The training group differed significantly from the comparison group in terms of type of work setting, $F=3.506$, $df=33.7$, $p=.0001$, and number of children served, $F=6.322$, $df=96.4$, $p=.0001$. These two differences can be understood in that approximately half of the comparison group was home day care providers whereas only about one-fourth of the training group were home day care providers. Home day care providers have a different work setting than center based providers and serve a smaller number of children.

Level of Perceived Competence

This research project investigated four major questions. The first question assessed changes in trainees' level of perceived competence as measured by the Trainee Needs Assessment Survey (TNAS). This question was answered by using the self reports of trainees and ratings provided by their supervisors. These ratings were obtained from trainees and supervisors prior to training and two months after training. Retrospective accounts of pretraining competence were also collected with the two month trainee and supervisor ratings.

Change scores. Change scores were calculated and used as the dependent variable in the analyses. Change scores were created bysubtracting the pretest score (or retro) from the post-test score for each subject. The mean difference score was used to compare the training and comparison groups in order to test whether one group exhibited significantly greater differences in their pre to post scores. Change scores were created for the TNAS and the S-TNAS.

Supervisor and trainee agreement. Similarities in ratings provided by the trainees and supervisors on the TNAS were investigated by using the Pearson Correlation technique. The data suggests mixed results as to whether supervisors and trainees agree on the trainees' level of knowledge and skill. Weak positive correlations were found between supervisor and trainee ratings on the pretest $r=.315$, $p=.136$, post-test $r=.375$, $p=.158$, and retrospective accounts $r=.135$, $p=.086$. As can be seen on Table 1, the trainees and supervisors have different mean scores. Because these people have different points of view, the ratings provided by trainees and supervisors was considered separately in the following analyses.

Table 1
Means for trainees, supervisors, comparison group and comparison group supervisors

TNAS- combined	Pre	Post	Retro
Trainees	42.939	51.000	41.000
Comparison group	42.000	48.383	41.000
Supervisors	40.860	47.000	39.640
Comparison sup.	45.375	47.750	47.375

TNAS - personal professional	Pre	Post	Retro
Trainees	16.841	19.280	15.696
Comparison group	18.043	19.174	19.000
Supervisors	15.281	18.523	15.151
Comparison sup.	16.625	17.625	17.250

TNAS - child development	Pre	Post	Retro
Trainees	27.293	29.888	26.944
Comparison group	30.130	29.609	30.217
Supervisors	25.209	26.930	25.349
Comparison sup.	28.125	30.125	30.125

ECWES			
Trainee	21.683	22.872	20.712
Comparison group	23.391	24.130	23.826

Trainee Self Reports. A Hotelling's T2 was used to detect differences in change scores for training and comparison subjects for self-reported competence on the combined, personal / professional, and child development subscales of the TNAS. Two separate Hotelling's T2 were calculated. The first was completed to investigate potential differences between the change scores evidenced by the training and comparison subjects from pre to post on the three components of the TNAS. When compared to the comparison group, the multivariate analysis indicated that the training group demonstrated significant gains from pre-test to posttest accounts, F=23.290, df=3, p=0001. Follow up univariate analysis found significant pre to post increases in the three areas measured by the TNAS: combined, personal/ professional, and child development. When compared to the comparison group, the training group had significant increases in their combined knowledge, t=41.725, df=1, p=.001, personal / professional knowledge, t=54,396, df=1, p=.001, and their child development knowledge, t=23.677, df=1, p=.001. The means and standard deviations for the change scores used in this analysis are reported on Table 2.

The second Hotellings T2 was completed to investigate potential differences between the change scores evidenced by the training and comparison subjects based on retrospective and post test ratings on the three components of the TNAS. When compared to the comparison group, the multivariate analysis indicated that the training group demonstrated significant gains from retrospective to posttest accounts, F=79.124, df=3, p=.001. Follow up univariate analyses found significant retrospective to post increases in the three areas measured by the TNAS: combined, personal professional, and child development. When compared to the comparison group, the training group had significant increases in their combined score,

t=159.473, df=1, p=.0001, personal / professional knowledge, t=204.336, df=1, p=.0001, and their child development knowledge, t=47.160, df=1, p=.0001. The means and standard deviations for the change scores used in this analysis are reported on Table 2.

Table 2
Means,standard deviations, and significane levels of self reported change scores for the training and comparison groups on the TNAS.

	Training group N=125	Comparison group N=23	Significance level
TNAS pre to post change score			
Scales			
combined	4.808 (8.322)	0.609 (11.484)	p=.0001
personal /professional	2.688 4.075)	1.139 (3.334)	p=.0001
child development	2.424 (5.570)	-0.522 (7.006)	p=.0001
TNAS retrospective to post change score			
Scales			
combined	6.336 (5.610)	-0.435 (5.434)	p=.0001
personal /professional	3.584 (2.803)	0.174 (2.387)	p=.0001
child development	2.944 (4.793)	-0.609 (3.144)	p=.0001

Supervisor Reports Two separate Hotelling's T2 were calculated to analyze the supervisor version of the TNAS (S-TNAS). The first was completed to investigate potential differences between the change scores evidenced by the training and comparison subjects from pre to post on the three components of the S-TNAS as reported by the supervisors. When compared to the comparison group, the multivariate analysis indicated that the training group demonstrated significant gains from pre-test to posttest according to the supervisor reports, $F=28.198$, $df=3$, $p=0001$. Follow up univariate analysis found significant pre to post increases in the three areas measured by the S-TNAS: combined, personal professional, and child development. When compared to the comparison I group, the training group had significant increases in their combined knowledge, $F=20.933$, $df=1$, $p=0001$, personal / professional knowledge, $F=79.025$, $df=1$, $p=.0001$, and their child development knowledge, $F=9.326$, $df=1$, $p=.003$. The means and standard deviations for the change scores used in this analysis are reported on Table 2.

The second Hotellings T2 was completed to investigate potential differences between the change scores evidenced by the training and comparison subjects from retrospective and post test reports of their supervisors on the three components of the S-TNAS. When compared to the control group, the multivariate analysis indicated that the training group had a significant increase in total mean change scores from retrospective to posttest according to their supervisors, $F=21.736$, $df=3$, $p=.0001$. Follow up univariate analysis found significant pre to post increases in the three areas measured by the S-TNAS: combined, personal professional, and child development. When compared to the control group, the training group had significant increases in their combined score, $t=29.798$, $df=1$, $p=.0001$, personal /

professional knowledge, t=64.232, df=1, p=.0001, and their child development knowledge, t=6.714, df=1, p=.011. The means and standard deviations for the gain scores used in this analysis are reported on Table 3.

Table 3
The means, standard deviations, and significance levels of change scores for the training and comparison group reported by supervisors on the S-TNAS.

	Training group N=86	Comparison group N=8	Significance level
S-TNAS pre to post mean change scores			
Scales			
combined	3.837 (7.778)	2.375 (3.378)	p=.0001
personal /professional	3.012 (3.142)	1.000 (2.000)	p=.0001
child development	2.000 (5.264)	1.721 (5.226)	.p=.003
S-TNAS retro to post mean change scores			
Scales:			
combined	4.791 (8.139)	0.375 (0.744)	p=.0001
personal /professional	3.372 (3.902)	0.375 (1.061)	p=.0001
child development	1.581 (5.660)	0.000 (0.535)	p=.011

Quality of work life

The second major question this project investigated was did the training change the perceived level of quality of work life for the training subjects as measured by the Early Childhood Work Environment Survey (ECWES). Two separate Hotellings T2 were calculated. The first was completed to investigate the potential difference between the gains evidenced between the training group and the comparison subjects from pre to post on the ECWES.

Change scores. Change scores were calculated and used as the dependent variable in the analyses. Change scores were created bysubtracting the pretest score (or retro) from the post-test score for each subject. The mean difference score was used to compare the training and comparison groups in order to test whether one group exhibited significantly greater differences in their pre to post scores. Change scores were created for the ECWES.

When compared to the comparison group the gain score for the training group was significantly higher, t=23.741, df=1, p=.000. The training group evidenced a mean gain score of 1.952, SD=4.479, from pre to post and the comparison group demonstrated a mean gain score of 0.739, SD=2.598,for pre to post.

The second Hotellings T2 was completed to examine the potential difference between the gains evidenced between the training group and the comparison group on their self reports of pretraining retrospectively and post. When compared to the comparison group, the mean gain score for the training group was significantly higher, t=112.854, df=1, p=.0001. The training group evidenced a mean gain score of 2.160, SD=2.273, from retrospective to post and the comparison group demonstrated a mean gain score of 0.304, SD=0.635, from retrospective to post. Table 1 provides the raw scores for the ECWES.

Implementation of trainee created goals

The third major question this project investigated was the effectiveness of training in enabling the implementation of trainee goals. Twelve subjects were randomly selected, six worked in center based programs and six were home day care providers. The six center based subjects were randomly selected to represent the various workshop topics. The six home day care providers participated in the family day care accreditation training. Three types of information were collected from the center based trainees: the Trainee Goal Survey (TGS) the Supervisor version of the Trainee Goal Survey (S-TGS), and the Goal Observation Scale (GOS). The TGS was the only source of information collected from the home day care providers because they do not have supervisors and observations in the home care setting are difficult to administer.

Trainee Goal Survey. The Trainee Goal Survey (TGS) had five items. Three asked the trainee to rate their perceived effectiveness in implementing each of the three goals. The other two questions were more general, one asked the trainee to rate their perceived the degree of difficulty in implementing the goals and the other questions asked the trainee to rate the degree to which the RICCTS was helpful in enabling the trainees to meet their goals.

The data from the TGS were analyzed in terms of clustering subjects into categories based on their self reported success in goal implementation. For instance trainees who rated themselves as implementing all of their goals effectively (rated on

a scale of 1-3) were clustered into a high success category. The categories were set as follows: total scores 3-4 = low success, 5-7 = moderate success, 8-9 = high success. Of the six center based providers,none fell into the low success category, two were moderately successful, and four were highly successful. Out of the six family day care providers zero fell into the low success, one was in the moderate success, and five were in the high success category. The total mean score was 8.03, the total mean for center based child care providers was 7.97, the total mean for family day care providers receiving family day care accreditation training was 8.24.

Out of the nine trainees that rated themselves in the high success category (five home day care, 4 center based), 100% said that their goals were "easy". One hundred percent said that the RICCTS was "very helpful" in enabling goal implementation, when asked on the TGS. Out of the three trainees who reported moderate success (one home day care, two center based), the two center based providers said that their goals were "somewhat difficult" and that the RICCTS was "somewhat helpful". The one home day care provider who reported moderate success said that her goals were "easy" and that the RICCTS was "very helpful".

The data from the S-TGS were analyzed by clustering subjects into similar categories based on supervisors' ratings of their staffs' competence in implementing the goals. Out of 6 responses, there were zero in the low category, two in the moderate, and four in the high success category. The total mean score for the S-TGS was 8.13.

Goal Observation Survey. The six center based subjects randomly selected for the TGS were also visited at their center by an objective observer to administer the Goal Observation Survey (GOS). The GOS has three items that could be rated by an independent observer a scale of one to three (1= no evidence of goal implementation, to 3= evidence of fully implemented goal). This data were analyzed by clustering subjects into categories based on the score assigned by the observer. The observation scores were clustered into low, moderate, and high success categories. The categories were set as follows: 3-4 = low, 5-7 = moderate, 8-9 = high. There were zero observations in the low category, there were three in the moderate, and three in the high category. The average mean score was 7.

Inter-rater reliability was assessed by examining the agreement of two independent observers based on one observation period. The ratings were in 100% agreement.

Based on the data collected by the TGS, S-TGS, and GOS the trainees were highly successful in making desired changes. Due to the small N, analysis were not performed but the agreement between trainee ratings, supervisor ratings, and ratings obtained by an objective observer were assessed, by formulating a matrix as seen on Tables 4 and 5. As can be seen on table three, agreement was found between self ratings of trainee and supervisor and ratings of trainee and observer. This level of agreement lends confidence to these findings.

Table 4
Matrix of agreement between trainee TGS scores AND supervisor S-TGS scores

		Trainee TGS		
		low	moderate	high
Supervisor S-TGS	low	0		
	moderate		2	
	high			4

Table 5
Matrix of agreement between trainee TGS rating and the objective observer GOS rating

		Trainee TGS		
		low	moderate	high
Objective Observer GOS	low	0		
	moderate		2	1
	high			3

Effectiveness of training types

The fourth and final major question this project investigated was potential differences in effectiveness of the different types of training. Three different training typeswere evaluated in the project: two hour workshops, eight hour conference, and on-going seven week training. Four separate ANOVAs were calculated each using different dependent measures. The dependent measures were the TNAS pre to post change score, the TNAS retrospective to post change score, the ECWES pre to post change score, and the ECWES retrospective to post change score. No significant differences were found in terms of training type with any of the four dependent measures. These analyses should be viewed as tentative given the wide variation in training group size. For example, the conference had 30 subjects, the workshops had 89, and the on-going had six. The topic, a brief description of the trainings, and the numbers of trainees who attended each topic are included in Appendix C.

Discussion

This evaluation addressed four major questions. The results produced clear answers to the first three questions of: (1) the training is effective in improving trainees' level of competence and skill? (2) it is effective in effective in improving the perception of work life for trainees? and (3) it is effective allowing trainee's to make desired changes in their programs as perceived by the trainees?

In regards to the fourth question, there were no significant differences in the effectiveness for the three types of trainings offered (one-shot workshops, conference, on-going). The results should be considered tentative due to the small number of subjects in the "on-going" group. The considerable difference in size for the groups poses limitations for drawing any conclusions, particularly because past research has found on-going training to be more effective (Sims, 1990; Jones, 1993).

The results of this study are strong. The results suggest that in all of the areas measured, the training group exhibited significant improvements. What makes these results particularly strong is that information was gathered from several sources of data (trainee, supervisor, observer), and several points in time (pre, post, and retrospective). In addition to using multiple measures, this study utilized a comparison group.

Analysis of the data found that supervisors have different perceptions than the trainees, therefor their data was considered separately. These very independent ratings both showed that the trainees improved. In addition, an objective observer also found their to be changes. The agreement of all of these perspectives lends confidence to the findings.

The use of the retrospective measure was rather unique for evaluation research. Research has shown that individuals often over-rate themselves prior to training because they are not yet aware of their weaknesses until after the training is administered (Cozby, Worden, & Kee, 1989). For this reason, the trainees were given an opportunity to rate themselves on their competence, knowledge, and skill prior to training when completing their post test forms. Examination of the results

suggest that the trainees and supervisors were not aware of weaknesses until after training. This is based on the fact that the self rated retrospective scores on the instruments were lower than the pretest scores.

A non-equivalent control group design (Cook & Campbell, 1979) was used inthis study. This design includes precautions to decrease threats to internal validity including history, instrumentation, pre-post sensitivity, instrumentation, and regression (Adams & Schvaneveldt, 1991). Threats to external validity were decreased as well. For example, the comparison group received a "treatment" to minimize the Hawthorne effect (Huck et al., 1984).

This study is also strong because it used multiple measures. Instruments that were used in other evaluations were used as well as unique measures. Design and instrumentation warrants further discussion.

When conducting an evaluation two questions arise "what should be measured?" and "how does one measure it?". The question of "what to measure" has often been answered by examining perceived level of competence and skill and examining perceived quality of work environment. With respect to "how to measure" these, Bloom et al. (1991) used the TNAS to assess perceived competence and used the ECWES to measure quality of work life. These measures were shown to be effective in her evaluation of director training.

This study utilized modified versions of the TNAS and ECWES. These were administered at several points in time (pre, post, and retro), and were collected from different sources (trainee and supervisor). Similar to previous research findings

(Jorde-Bloom, 1989a), these instruments were able to detect changes that can be attributed to training. However, the TNAS and ECWES measure perceptions. Perceptions do not necessarily translate into changes in behavior. Behavioral change is the ultimate goal of most training. Therefore, for the purposes of this study, goal implementation was assessed as an indicator of training effectiveness in order to measure changes in actual behavior. Goals allow the trainees to individualize the behavior they wish to change. The goal rating instruments allow an observer, in addition to the trainee and supervisor, to determine the effectiveness in changing behavior, as opposed to just perceptions as measured by the other instruments.

The assessment of goal implementation was unique to this evaluation and implications can be drawn concerning the use of goals in a variety of areas related to child care training. These implications will be discussed in terms of training, professional development plans, and future research.

Implications for training

The use of goals yields implications for training efforts. Goals provide information on trainee's individuals training needs. These can be helpful to the RICCTS and other training units for planning future training. Also, a copy of the goals could be used by individual trainers to determine if the training they are delivering is being received and comprehended by their audience in a way that is intended. Goals also provide a tool for on-site technical assistance. If a training system wishes to do follow up or on-site technical assistance, goals provide a map to what type of help and resources each trainee would need.

Implications for professional development

In addition, goals may be an effective tool for individualized professional development. Currently, the state mandates 20 hours of training for each child care provider. Goals can be used effectively to meet the individual needs of employees. Goals may be used as part of annual professional development plan. They can be used to monitor the trainees progress and to review or evaluate the trainee's outcome at the completion of the year. If each provider were to create individual goals they could become a framework for his/her professional development for the year.

Implications for research

Goals can be used as a measure in future evaluations. The use of goal implementation rating scales allows the trainee, supervisor, and observer to determine the degree to which the trainee carries out their plans. The use of goals allows the evaluator to answer the question of "is the training effective" by looking at actual behaviors in addition to or in place of the more typically assessed changes in perceptions.

Conclusions

Several conclusions can be drawn from this study. The most obvious is that the training provided by the RICCTS appears to be effective and should be continued. A broad implication to be drawn is that training seems to be important to increase professionalism in the child care providers. Professionalization is certainly a vision for the child care community (Bloom et. al., 1991). This implication is based on the significant increase in trainees reports in terms of professional knowledge and

skill. Another broad implication is that inexpensive and available training can potentially improve the well being of children and should be expanded. The training provided by the RICCTS should be continued and expanded based on the vision of those involved in career development for early care providers (Morgan et. al, 1994).

Evaluation of training is an important endeavor. Evaluation design is an area that needs to be further explored and expanded. Future research could utilize multiple sources of data and take into consideration both perceptions and behaviors. This could add validity and reliability to the findings. Evaluation could also focus of what type of training is most effective and what topic areas seem to be most effectively trained and how. The more evaluation research is conducted the greater resources in the literature for those posed with the common dilemma of "what to measure?" and "how to measure it?"

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